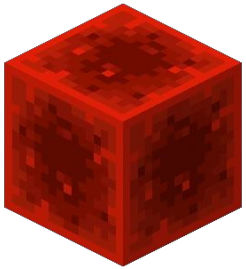
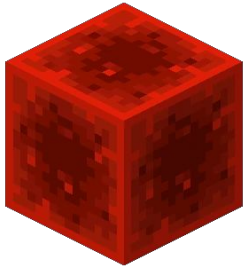
# CMSC389E:

*Digital Logic Design Through Minecraft*



## Introduction



Fall 2020

Akilesh Praveen & Ashwath Krishnan

# Announcements

- Buy Minecraft!
- Course website (http://www.cs.umd.edu/class/fall2020/cmsc389E/)
- Project 0

# So What is This Class?

# Who is CMSC389E?

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# What is CMSC389E?

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# What is CMSC389E?

- A class about **digital logic design**
- A class about building **fundamental computing circuits** leveraging **redstone** in **Minecraft**
- A way to get **hands-on experience** building and modifying **fundamental, essential computing circuits**

- We will adhere to the **Von Neumann Computing Model**

# What to Expect in CMSC389E?

- A continuation of logic gates from CMSC250
- A few more advanced circuits and logic structures (Think ENEE244)
- Logic structures that are the foundations of computer hardware
- Logic gates -> Adders etc. -> Further advanced circuits
- (All in Minecraft!)

# Class Structure

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- All projects (save for the first few) will be submitted via the CS submit server (submit.cs.umd.edu)
- One project per week
  - Assigned Friday, due the next Monday
  - A little over a week per project
- 13 total lectures
- 1 midterm exam (on-paper or via ELMS, tbd)
- Cumulative, impressive final project

# Class Structure

- **Important:** Ensure that you have submitted a working version of each project by the **final deadline** at the end of the semester.
- This is considered your ‘Good Faith Attempt’. Failure to submit this will result in failing the class. (It’s true)

# Class Structure

- **Theory** + Project ‘Big Picture’ Overview taught in class, with extra reading and video resources delivered via the course website and online textbook
- **Practice** handed in as projects and graded
- **Absolutely wicked** final project is a cumulative result of your efforts over the semester

# Class Structure

- Sufficient theoretical background + general idea of the project's purpose provided during lecture
- Detailed project description will get you the rest of the way there when you actually sit down to build the project in Minecraft

- See **syllabus** for details (course website)

# Class Structure

- Theory + Project ‘Big Picture’ Overview taught in class, with extra reading and video resources delivered via the course website and online textbook
- Practice handed in as projects and graded
- Extra credit! (Still working this one out)

# Logistics

# Buy Minecraft!

- It is essential to this course that you buy the **Java** edition of Minecraft from Mojang's official website, at the following link: https://www.minecraft.net/en-us/store/minecraft-java-edition
- We **cannot** facilitate use of the Pocket Edition, Bedrock (Including the 'Windows 10' version) Edition, and Console versions of Minecraft.

# Course Website

- Our course website will have a quick summary of **all** that you need to accomplish each week. Please use it, especially until our ELMS page is published by the powers that be. http://www.cs.umd.edu/class/fall2020/cmsc389E/
- Once ELMS is up, the **same** information will be available on the course website and ELMS (you may check either).

# Course Website

- Ashwath also has some excellent video resources that we will be linking during the semester, those will also be found on the course website (and ELMS)

# Online Textbook

- A **free** online textbook with built-in web based Minecraft schematics is available here: https:/cmsc-389e.github.io/digital-logic-computer-architecture-minecraft
- The recommended readings from this book that you'll find linked on the course website for each week are designed to cover **only** what you need to know for the course and exam. (Other online resources have a lot of info!!)

# Remarks

# Online Resources

- Use the online textbook (link on course website as well) for some more theoretical background of the material.

- The recommended readings from this book that you'll find linked on the course website for each week are designed to cover **only** what you need to know for the course and exam. (Other online resources have a lot of info!!)

# Deliverables

- Project 0 (wait on turning this one in, until we figure out ELMS)
- Buy Minecraft
- Set aside your username so we can whitelist it later.